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ABSTRACT

This document is a final report on a 4-year longitudinal study of possible relationships between selected home environmental factors and children's reading achievement in the primary grades. The home factors included (1) maternal language style, (2) maternal teaching style, (3) children's daily schedules, and (4) prereading activities at home. Data were collected on 40 children and mothers, based on tape recordings, direct observation of structured interactions, and mothers' reports. Assessment involved administration of the Murphy-Durrell Reading Readiness Analysis when subjects were in kindergarten, the Stanford Achievement Primary I Battery in second grade, and the Primary II Battery in third grade. Relationships were studied by a correlation procedure. It was concluded that six significant relationships exist between maternal language style and children's reading. There may be some relationship between maternal teaching style and reading achievement. Significant relationships between children's daily schedules and achievement were found. Surprisingly few relationships between home prereading activities and reading achievement could be isolated. Discussion emphasized the need for further research on the topic. (DP)

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A FINAL REPORT ON A LONGITUDINAL STUDY OF CERTAIN HOME ENVIRONMENTAL FACTORS AND CHILDREN'S PRIMARY-GRADE READING ACHIEVEMENT

Research report--Wednesday, May 2, 1973--10:45-11:45 a.m.

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The purpose of this research was to conduct a four-year study to ascertain possible relationships which may exist between certain selected home environmental factors and children's reading achievement in the primary grades. The home environmental factors studied were maternal language style, maternal teaching style, children's daily schedules, and home prereading activities.

Related Research

Bernstein of The University of London evidently was the rst researcher to describe the types of language used by members of different social classes. He found that many members of the middle

class used an elaborated language style in which they spoke with long, complex sentences, many uncommon adjectives and adverbs, many uncommon verb forms, and a precise, varied vocabulary. On the other hand, Bernstein discovered that members of the lower classes often used a restricted language style, a way of speaking in which they used short, simple sentences, few uncommon adjectives and adverbs, simple verb forms, incorrect grammar, and an imprecise vocabulary. (1)

Hess (currently of Stanford University) and his associates conducted research at the Urban Child Center of The University of Chicago which confirmed Bernstein's findings. In addition, they conducted research on the relation between maternal language style and children's cognitive level. These researchers found a significant relation between the level of abstraction of a mother's language and the intellectual level achieved by her child. They found that if a mother used an elaborated language style, her child was likely to have a high intellectual level. (3) Hess and his associates also conducted research on the relation between maternal teaching style as demonstrated by directions given to the child using an "Etch-a-Sketch" and the child's cognitive level. They discovered that if a mother used an active teaching style in which she gave specific directions and positive reinforcement to her child, he was likely to attain a high intellectual level. On the other hand, they found that if a mother employed a passive teaching style in which she gave few specific directions and little

positive reinforcement, her child was likely to achieve a lower intellectual level. (2)

In the first study, Miller attempted to relate certain home environmental factors and children's reading readiness in kindergarten and subsequent first-grade reading achievement. She found that maternal language as evaluated by the five scales of Mean Sentence Length, Adjective Range, Adverb Range, Verb Elaboration, and Complex Verb Preference was not related to children's reading readiness, but maternal language as measured by the scale of Syntactic Structure Elaboration was related to reading readiness. She found that maternal language as measured by the scales of Mean Sentence Length, Adverb Range, and Syntactic Structure Elaboration was related to first-grade reading achievement. (4,7,8)

In this same study, Miller found that maternal teaching style as demonstrated by a structured mother-child interaction was related to children's reading readiness in kindergarten but not to first-grade reading achievement. She also discovered that children's daily home activities were related neither to reading readiness nor to first-grade reading achievement. She further determined that home prereading activities were related to children's reading readiness, but were related to first-grade reading achievement only in the middle class. (4,7,8)

Due to the potential significance of these findings, Miller later conducted a replication study in another area of the Midwest.

In the first phase of this study she found that maternal language as measured by the three scales of Syntactic Structure Elaboration, Adverb Range, and Verb Elaboration was related to children's reading readiness in kindergarten. Although home prereading activities were found to be related to children's reading readiness in kindergarten, maternal teaching style and children's daily schedules were not found to be related. (6)

In another phase of this study, Miller determined that maternal language as measured by the scales of Syntactic Structure Elaboration and Verb Elaboration was related to children's reading achievement in second grade. She discovered that home prereading activities seemed to influence second-grade reading achievement only when the entire group was considered. She also found no positive relationships either between maternal teaching style and second-grade reading achievement or between children's daily schedules and second-grade reading achievement. (5)

Description of the Subjects and Methods of Collecting and Treating the Data

Although the original sample for this study has consisted of seventy-five mothers and their seventy-five kindergarten-aged children, in 1971 the sample had diminished through attrition to forty children who then were in early third grade. These children all resided in a Midwestern city. The sample was divided into three social classes using the criteria of Hess and his researchers.

(3) The middle-class children were members of college-educated professional, executive, or managerial families; the upper-lower class children were members of high-school educated skilled families; and the lower-lower class children were members of predominantly elementary-school educated semi-skilled or unskilled families. The middle-class group then consisted of seventeen children; the upper-lower class group was composed of thirteen children; and the lower-lower class group consisted of ten children.

During the winter of 1968-69, the investigator held home interviews with each mother and child in the original sample to gather four main types of data. A tape-recorded language protocol was obtained from each mother while she told her child a story about a picture in a tradebook which the researcher brought to each interview. This language protocol subsequently was evaluated by using six language scales which were formulated by Hess and his researchers: Mean Sentence Length, Adjuctive Range, Adverb Range, Verb Elaboration, Complex Verb Preference, and Syntactic Structure Elaboration. A structured mother-child interaction during which each mother showed her child how to assemble a simple jigsaw puzzle was designed to assess maternal teaching style in terms of active or passive characteristics. Each mother described her child's typical daily home activities, to the investigator, and the home prereading activities in which each child had engaged were determined from maternal responses to a structured parent schedule.

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In May, 1969, each child in the original sample was given the Murphy-Durrell Reading Readiness Analysis in kindergarten. The results of this part of the study were reported earlier in this article. In October, 1970, the forty-eight children in the sample who then were in second grade were given three subtests of the Stanford Achievement Test Primary I Battery which relate to reading. The results of this phase of the study also were reported earlier in this article. In October, 1971, the forty children in the sample who then were in third grade were given three subtests of the Stanford Achievement Test Primary II Battery which relate to reading achievement. These were the subtests of word meaning, paragraph meaning, and word study. Relationships existing between the nine variables obtained during the home interviews and the children's grade-level placement on each of the three subtests were studied by the use of correlation procedures.*

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*All correlations were computed on an IBM 36040 Computer at Illinois State University.

Results

Table 1 shows that there was a significant relationship in the middle-class group between maternal language as evaluated only by the scale of Complex Verb Preference and reading achievement as measured by the word meaning subtest. According to Table 2, there were no significant relationships between maternal language in the upper-lower class group and children's reading achievement in the third grade. From examination of Table 3, it is evident that there were no significant correlations between maternal language as measured by the six scales and children's third-grade reading achievement in the lower-lower class group. However, it is apparent from Table 4 that there indeed were a number of significant relationships between maternal language as evaluated by the six scales and children's third-grade reading achievement when the entire group of forty was considered. In this total group, two of the correlations were significant at the .05 level. Maternal language as measured by the scale of Complex Verb Preference seemed to be the most highly related to reading achievement in the third grade.

Table 5 shows that there were two significant correlations between maternal teaching style and children's third-grade reading achievement. Maternal teaching style seemed to be the most related to reading achievement as evaluated by the word meaning subtest.

From examination of Table 6, it is apparent that there were no significant relationships between children's daily schedules and children's reading achievement in the third grade.

According to Table 7, there was only one significant correlation between home prereading activities and children's reading achievement in the third grade. This relationship was found in the lower-lower class group and occurred between home prereading activities and the paragraph meaning subtest. The lack of other significant relationships between home prereading activities and children's third-grade reading achievement indeed is a surprising finding.

Table 8 shows the correlations between the independent variables of maternal teaching style, children's daily schedules, and home prereading activities and the dependent variable of children's third-grade reading achievement when the total group was considered. In the total group, there were two significant correlations found between children's daily schedules and the word meaning and paragraph meaning subtests.

Conclusions and Implications

The results of this study indicated that maternal language was slightly related to third-grade reading achievement in the middle class. However, an extremely important finding in the study was the six significant relationships between maternal language and third-grade reading achievement when the total group of forty was considered. This finding certainly suggests the importance of replicating this phase of the study on a larger scale since relationships between maternal language and primary-grade reading achievement may well exist.

According to the results of this study, there may be some relationship between maternal teaching style and reading achievement. It is also interesting to note that there were significant relationships between children's daily schedules and primary-grade reading achievement when the total group was considered. This finding suggests the possible desirability for additional research in this area of the study.

A most unique finding in this study was the few significant relationships found between home prereading activities and third-grade reading achievement. It would seem by logical analysis that there should be significant relationships between home prereading experiences and reading achievement through the third grade. However, the influence of primary-grade teachers on each child's reading achievement can be postulated from this finding. Perhaps a superior primary-grade teacher can overcome a child's initial reading readiness deficits on school entrance. If this is true, it certainly suggests the need for primary-grade teachers who are extremely competent in the teaching of reading. If a child who enters school with such deficits in reading readiness does not have a master teacher of reading, it seems doubtful that he can achieve up to his potential level in primary-grade reading.

Table 1

Correlations Between Maternal Language Scales and

Children's Reading Achievement

Middle-Class Group

Independent Variables 17 Observations	Word Meaning	Paragraph Meaning	Word Study
Mean Sentence Length	.03	-.28	-.16
Adjective Range	-.37	-.24	.10
Adverb Range	.16	.46	.25
Verb Elaboration	.21	-.05	-.03
Complex Verb Preference	.55*	.23	.22
Syntactic Structure Elaboration	-.21	-.12	.04

Significance was determined by using the two-tailed test.

* Significant at the .05 level

Table 2

Correlations Between Maternal Language Scales and Children's Reading Achievement

Upper-Lower Class Group

Independent Variables 13 Observations	Word Meaning	Paragraph Meaning	Word Study
Mean Sentence Length	.42	.07	-.07
Adjective Range	.39	.37	.11
Adverb Range	.26	.01	-.22
Verb Elaboration	-.23	-.36	-.13
Complex Verb Preference	-.23	-.13	-.20
Syntactic Structure Elaboration	.22	.32	.11

Significance was determined by using the two-tailed test.

Table 3

Correlations Between Maternal Language Scales and

Children's Reading Achievement

Lower-Lower Class Group

Independent Variables 10 Observations	Word Meaning	Paragraph Meaning	Word Study
Mean Sentence	.38	-.23	-.08
Adjective Range	-.03	.06	.13
Adverb Range	-.21	-.42	-.16
Verb Elaboration	-.18	-.18	-.07
Complex Verb Preference	.52	.35	.04
Syntactic Structure Elaboration	.11	-.56	-.05

Significance was determined by using the two-tailed test.

Table 4

Correlations Between Maternal Language Scales and Children's Reading Achievement

Total Group

Independent Variables 40 Observations	Word Meaning	Paragraph Meaning	Word Study
Mean Sentence Length	.42**	.17	.08
Adjective Range	.14	.15	.19
Adverb Range	.31*	.31*	.08
Verb Elaboration	.33*	.21	.19
Complex Verb Preference	.44**	.32*	.22
Syntactic Structure Elaboration	.30	.27	.22

Significance was determined by using the two-tailed test.

*Significant at the .05 level

**Significant at the .01 level

Table 5

Correlations between Maternal Teaching Style and Children's Reading Achievement

Independent Variable	Word Meaning	Paragraph Meaning	Word Study
Maternal Teaching Style (Middle Class)[1]	.49*	.26	.40
Maternal Teaching Style (Upper-Lower Class)[2]	.58*	.40	.53
Maternal Teaching Style (Lower-Lower Class)[3]	-.18	.49	.05

Significance was determined by using the two-tailed test.

*Significant at the .05 level

[1]17 Observations

[2]13 Observations

[3]10 Observations

Table 6

Correlations Between Children's Daily Schedules and Children's Reading Achievement

Independent Variable	Word Meaning	Paragraph Meaning	Word Study
Children's Daily Schedules (Middle Class)[1]	-.15	-.15	.11
Children's Daily Schedules (Upper-Lower Class)[2]	-.12	-.03	.24
Children's Daily Schedules (Lower-Lower Class)[3]	-.08	-.35	-.48

Significance was determined by using the two-tailed test.

[1] 17 Observations

[2] 13 Observations

[3] 10 Observations

Table 7

Correlations Between Home Prereading Activities and Children's Reading Achievement

Independent Variable	Word Meaning	Paragraph Meaning	Word Study
Home Prereading Activities (Middle Class)[1]	-.09	-.02	-.08
Home Prereading Activities (Upper-Lower Class)[2]	-.06	.27	-.10
Home Prereading Activities (Lower-Lower Class)[3]	-.16	-.64*	.37

Significance was determined by using the two-tailed test.

*Significant at the .05 level

[1]17 Observations

[2]13 Observations

[3]10 Observations

Table 8

Correlations Between Certain Home Environmental Factors and Children's Reading Achievement

Total Group

Independent Variables 40 Observations	Word Meaning	Paragraph Meaning	Word Study
Maternal Teaching Style	.14	.13	.19
Children's Daily Schedules	-.42*	-.41*	-.24
Home Prereading Activities	.25	.27	.24

Significance was determined by using the two-tailed test.

*Significant at the .05 level

References

1. Bernstein, Basil. "Social Class and Linguistic Development: A Theory of Social Learning," Education, Economy, and Society. New York: The Free Press, 1961, pp. 288-310.

2. Brophy, Jere, Robert D. Hess, and Virginia C. Shipman. "Teaching Behavior of Mothers in Structured Interaction with Their Four-Year-Old Children: A Study in Frustration." Paper presented at the Midwestern Psychological Association Meeting, Chicago, Illinois, May 5, 1966, pp. 1-15.

3. Hess, Robert D. and Virginia C. Shipman. "Early Experience and the Socialization of Cognitive Modes in Children," Child Development, 36 (December 1965), 869-886.

4. Miller, Wilma H. "An Examination of Children's Daily Schedules in Three Social Classes and Their Relation to First-Grade Reading Achievement," California Journal of Educational Research, 21 (May 1970), 100-110.

5. Miller, Wilma H. "Certain Home Environmental Factors and Children's Primary-Grade Reading Achievement," Research Relating to Children. ERIC (Bulletin 30), 110-111.

6. Miller, Wilma H. "Certain Home Environmental Factors and Children's Reading Readiness," Illinois School Research, 7 (Fall 1970), 30-34.

7. Miller, Wilma H. "Home Prereading Experiences and First-Grade Reading Achievement," The Reading Teacher, 22 (April 1969) 641-645.

8. Miller, Wilma H. "When Mothers Teach Their Children," The Elementary School Journal, 70 (October 1969), 38-42.